AMENDMENTS TO THE CLAIMS

Amendments to the claims are reflected in the following listing, which replaces any and all prior versions and listings of claims in the present application:

1. – 30. (Cancelled)

31. (New) A method of electrowinning copper comprising:

providing an electrolytic cell comprising at least one flow-through anode and at least one plate cathode, wherein said plate cathode has an active surface area;

providing a flow of electrolyte through a plurality of injection holes to said electrolytic cell, wherein said electrolyte comprises copper and solubilized ferrous iron and wherein said plurality of injection holes are located on at least one of the floor and the ceiling of said electrolytic cell;

oxidizing at least a portion of said solubilized ferrous iron in said electrolyte at the at least one flow-through anode from ferrous iron to ferric iron;

removing at least a portion of said copper from said electrolyte at the at least one plate cathode; and

operating said electrolytic cell at a cell voltage and at a current density, wherein said cell voltage is less than about 1.5 Volts and wherein said current density is greater than about 26 amperes per square foot of active plate cathode.

32. (New) The method according to claim 31, wherein operating said electrolytic cell at a cell voltage comprises operating said electrolytic cell at a cell voltage less than about 1.2 Volts.

33. (New) The method according to claim 31, wherein operating said electrolytic cell at a cell voltage comprises operating said electrolytic cell at a cell voltage less than about 1.0 Volts.

34. (New) The method according to claim 31, wherein said step of providing flow of electrolyte to said electrolytic cell comprises providing an electrolyte flow rate of from about 0.1 to about 1.0 gallons per minute per square foot of active plate cathode.

35. (New) The method according to claim 31, wherein said at least one flow-through anode comprises a metallic mesh.

36. (New) The method according to claim 31, wherein said step of providing a flow of electrolyte comprises providing a flow of electrolyte having an iron concentration of from about 10 g/L to about 60 g/L.

37. (New) The method according to claim 31, wherein said step of providing a flow of electrolyte further comprises maintaining the temperature of said electrolyte in the range of from about 110°F to about 180°F.

38. (New) The method according to claim 31, further comprising:

removing at least a portion of said ferric iron from said electrolytic cell in an electrolyte regeneration stream;

reducing at least a portion of said ferric iron in said electrolyte regeneration stream to ferrous iron to form a regenerated electrolyte stream; and

returning at least a portion of said regenerated electrolyte stream to said electrolytic cell.

39. (New) The method according to claim 42, wherein said step of reducing at least a portion of said ferric iron comprises contacting said ferric iron with a reducing agent in the presence of a catalyst.

40. (New) The method according to claim 43, wherein said step of reducing at least a portion of said ferric iron comprises contacting said ferric iron with sulfur dioxide gas in the presence of a catalyst.

41. (New) A method of electrowinning copper comprising:

providing an electrolytic cell comprising at least one flow-through anode, wherein said at least one flow-through anode comprises a metallic mesh anode, and at least one plate cathode, wherein said plate cathode has an active surface area;

providing a flow of electrolyte through a plurality of injection holes to said electrolytic cell, wherein said electrolyte comprises copper and solubilized ferrous iron and wherein said plurality of injection holes are encased by said metallic mesh anode;

oxidizing at least a portion of said solubilized ferrous iron in said electrolyte at the at least one flow-through anode from ferrous iron to ferric iron;

removing at least a portion of said copper from said electrolyte at the at least one plate cathode; and

operating said electrolytic cell at a cell voltage and at a current density, wherein said cell voltage is less than about 1.5 Volts and wherein said current density is greater than about 26 amperes per square foot of active plate cathode.

42. (New) The method according to claim 41, wherein operating said electrolytic cell at a cell voltage comprises operating said electrolytic cell at a cell voltage less than about 1.2 Volts.

43. (New) The method according to claim 41, wherein operating said electrolytic cell at a cell voltage comprises operating said electrolytic cell at a cell voltage less than about 1.0 Volts.

44. (New) The method according to claim 41, wherein said step of providing flow of electrolyte to said electrolytic cell comprises providing an electrolyte flow rate of from about 0.1 to about 1.0 gallons per minute per square foot of active plate cathode.

45. (New) The method according to claim 41, wherein said step of providing a flow of electrolyte comprises providing a flow of electrolyte having an iron concentration of from about 10 g/L to about 60 g/L.

46. (New) The method according to claim 41, wherein said step of providing a flow of electrolyte comprises providing a flow of electrolyte having an iron concentration of from about 20 g/L to about 60 g/L.

47. (New) The method according to claim 41, wherein said step of providing a flow of electrolyte further comprises maintaining the temperature of said electrolyte in the range of from about 110°F to about 180°F.

48. (New) The method according to claim 41, further comprising:

removing at least a portion of said ferric iron from said electrolytic cell in an electrolyte regeneration stream;

reducing at least a portion of said ferric iron in said electrolyte regeneration stream to ferrous iron to form a regenerated electrolyte stream; and

returning at least a portion of said regenerated electrolyte stream to said electrolytic cell.

49. (New) The method according to claim 48, wherein said step of reducing at least a portion of said ferric iron comprises contacting said ferric iron with a reducing agent in the presence of a catalyst.

50. (New) The method according to claim 49, wherein said step of reducing at least a portion of said ferric iron comprises contacting said ferric iron with sulfur dioxide gas in the presence of a catalyst.